

Winter 2014-2015 in Review

With March 1 comes the end of meteorological winter, a period defined as covering the months of December through February. The winter of 2014-15 was a tale of two seasons it seemed, with seasonably cool temperatures and little snowfall for much of December and January, followed by much colder and snowier weather in February. The average temperature at Indianapolis was 26.5 degrees, good for a tie with 1944-45 and 1983-84 for the 22nd coldest winter on record. Most of central Indiana saw average temps for the winter at 2 to 5 degrees below normal. The amount of subzero mornings wasn't as extreme as that experienced in the 2013-14 winter, but there were still many locations that went below zero on 10 separate mornings. Indianapolis experienced 6 morning lows with subzero temperatures. High temperatures never made it to 60 degrees or warmer between December and February at Indianapolis, the first occurrence since the 2009-10 winter and only the 4th winter since the mid 1980s.

The winter ended up being drier than normal, and the driest in five years. Little snow was experienced in December and February, but a much colder and more unsettled pattern in February brought more snow to the region. Many locations received 10 to 20 inches in February, helping snow amounts fall a few inches short of average for the winter season. At Indianapolis, the 17 inches of snowfall from December to February was a little more than a third of the amount received in winter 2013-14.

The following is a review of weather conditions experienced in central Indiana during the winter season of 2014-2015.

Temperatures

DECEMBER

The mild weather pattern that began at the end of November continued nearly the entire month of December. Average temperatures at all climate sites across central Indiana averaged nearly two degrees (or more) above normal.

High temperatures were around normal values for nearly the first two weeks of the month. With virtually no snow cover and plenty of cloud cover, low temperatures also remained mild with readings well above average most nights during this period.

A small warm up from the 13th through the 16th brought temperatures in the upper 40s with some locations hitting the 50 degree mark. More seasonable temperatures then returned before another warm up arrived early Christmas week.

The warmest day of the month across central Indiana was on the 23rd where Indianapolis topped out at 55 degrees. The remainder of the holiday week remained above average before gradually cooling to below normal by the end of the month. The coldest reading of the month for Indianapolis was 9 degrees the morning of New Year's Eve.

JANUARY

Generally mild conditions started off January, but the colder air that would prevail for most of the month moved in at the end of the first week.

Most of the period of January 5th through the 15th saw well below normal temperatures across central Indiana. The coldest air of the month was seen during that period, with average temperatures around 25 degrees below normal around the 7th. Low temperatures across the area were below zero a few days, with high temperatures in the teens and 20s common.

The pattern flipped and above normal average temperatures ruled the period from the 16th to the 25th across most of the area. Highs even reached the 50s on a couple of days in some areas. However, cold returned for most of the last week of the month. The warmest day of the month across much of central Indiana was on the 3rd, when Indianapolis topped out at 52 degrees. Some locations saw their warmest temperature around the 20th when readings also reached the 50s. The coldest day of the month at Indianapolis was on the 8th, when temperatures fell to -7 degrees.

FEBRUARY

Persistent and repeated surges of cold arctic air into the Ohio Valley contributed to making February 2015 the coldest February since 2007 and only the second coldest February since 1979. Oddly enough, the warmest part of the month came during the first week. High temperatures rose into the 50s on the 7th and 8th across central Indiana as strong southwest winds brought milder air into the region. These would be the only two days temperatures rose above 50 degrees during the month.

The passage of a cold front on the evening of the 8th brought an abrupt end to the spring-like temperatures. From this point forward in February, temperatures would almost entirely remain below 40, with numerous days even struggling to make it to 30. The combination of renewed surges of bitterly cold Arctic air and the gradual expansion of a snowpack during the second half of the month ensured temperatures well below normal. The coldest air peaked on the 19th when several locations were unable to even rise out of the single digits for highs. For Indianapolis, the high of 9 degrees on the 19th not only set the record for the coldest high for the day, but also marked the latest occurrence of single digits highs since February 21, 1963. Several mornings experienced subzero lows during the last ten days of the month, with a number of locations falling to -10 to -20 degrees on the 20th and 24th. Indianapolis broke their record low by 4 degrees on the 24th, falling to -6.

Overall, temperatures averaged 10 to 14 degrees below normal for the month of February across central Indiana.

Temperature Data for Sites in Central Indiana

Site	Winter 2014-15 Temperature	Normal Temperature	Diff. From Normal
Indianapolis Int'l Airport	26.5	30.5	-4.0
Lafayette	24.2	29.1	-4.9
Muncie	25.5	28.9	-3.4
Terre Haute	27.5	30.7	-3.2
Bloomington	27.9	31.5	-3.6
Shelbyville	28.3	30.7	-2.4
Indianapolis – Eagle Creek	26.2	30.6	-4.4

Winter Extremes Across Central Indiana

Site	Warmest Temperature	Coldest Temperature
Indianapolis Int'l Airport	57 on 2/8	-7 on 1/8
Lafayette	52 on 2/8	-10 on 1/8
Muncie	57 on 12/23	-8 on 1/8
Terre Haute	58 on 2/8	-15 on 2/24
Bloomington	58 on 1/3 and 2/7	-16 on 2/20 and 2/24
Shelbyville	58 on 2/8	-15 on 2/24
Indianapolis-Eagle Creek	56 on 2/8	-7 on 1/8, 2/20 and 2/24

Precipitation

DECEMBER

December precipitation ranged from below normal in northern and extreme southern Indiana to normal to slightly above normal across central and the remainder of southern Indiana. Monthly liquid precipitation totals ranged from near an inch in northwest Indiana to nearly five inches in portions of southern Indiana. The majority of the state received between 1.5 and 4 inches of precipitation.

There were two significant rain events during the month of December. The largest was on the 5th and 6th when rains of 1 to 3 inches fell across central and southern Indiana. The second event followed slightly more than two weeks later when 0.5 to 1.5 inches fell across the entire state from the 22nd through the 24th.

Lowland flooding followed after the rains on the 5th and 6th along portions of the White, East Fork White, and Muscatatuck Rivers in southern Indiana. The lesser rains prior to Christmas produced bankfull conditions along the Wabash River in western Indiana.

Following a rather snowy month of November, snow was non-existent during December across Indiana. Monthly snowfall totals across the state ranged from a trace to one inch. All of the state received more snow during November than in December.

With only 0.1 inches of snow in the Indianapolis area, December 2014 tied for the sixth least snowiest since snowfall records began in 1884. The mere tenth of an inch of snow was the lowest for December since 1941. This was the 26th time since snowfall records began that more snow fell in November than in December at Indianapolis. The last time this occurred was in 1997.

JANUARY

January liquid precipitation ranged from below normal in extreme south central Indiana to above normal in portions of east central and southern Indiana. Monthly totals measured from 1 inch in south central and northern Indiana to slightly over 4 inches in southern and east central Indiana. Almost all of the state received between 1 and 4 inches of liquid precipitation.

Precipitation was not evenly distributed in January. Central and southern Indiana received normal to above normal liquid precipitation from a combination of rain, snow, sleet and freezing rain in the first half of the month. Liquid totals ranged from 0.50 inches to 3.5 inches. Precipitation during the second half of the month was below normal across the entire state. Liquid amounts ranged from only a tenth to possibly an inch.

Rainfall of 1 to 2.5 inches on the 3rd in southern Indiana caused lowland flooding along portions of the East Fork White, White and Muscatatuck Rivers. A prolonged cold spell from the 5th through the 15th allowed rivers to return to normal and river ice to form. As temperatures moderated after the 15th, the accumulated snow and ice in central and northern Indiana melted. This produced ice jam flooding along portions of the Wabash River in western Indiana during the week of 18th. Ice jam flooding ended by the 25th.

Monthly snowfall during January was below normal for central and southern portions of the state and normal to above normal for northern areas. Snowfall totals ranged from less than an inch in southern Indiana to more than 20 inches in the South Bend area of northern Indiana. At Indianapolis, the snowiest day was January 6th when 1.4 inches of snow fell. For the winter season so far (December 1- January 31), the total of 3.2 inches is the lowest since 1983.

FEBRUARY

February melted liquid precipitation was below normal for almost the entire state. Only portions of the lake effect areas of northern Indiana received normal to above normal liquid precipitation. Monthly totals measured from near 1 inch in western Indiana to close to 3 inches in portions of southern and northern Indiana. Much of the state received between 1 and 2 inches of liquid precipitation.

Limited flooding occurred along the Wabash River in western Indiana from the 9th through the 12th. The minor flood was caused by snowmelt. Temperatures rose into the 40s and 50s during a brief warm spell on the 7th and 8th and nearly all of the snow in the upper Wabash River Basin vanished. Snow would return during the second half of the month as storms on the 15th-16th, 21st and 28th into March 1 produced several inches of snowfall across the region.

Four significant winter storms affected portions of Indiana during February. At the very beginning of the month, northern Indiana received 8 to more than 20 inches of snow. On the 15th and 16th southern Indiana measured from 3 to 9 inches of snow from a storm that dumped over a foot of snow in central Kentucky. Another storm followed on the 21st as central Indiana received 3 to 7 inches of snow, the biggest snowfall of the season for the area. A fourth storm began on the evening of the 28th, continuing into the first day of March, bringing the largest snowfall of the season for much of central Indiana.

Monthly snowfall was above normal for the entire state in February with near record amounts for the South Bend area. Snowfall ranged from 6 inches in western Indiana to more than 30 inches in the lake effect areas of northern Indiana. Nearly all of the precipitation in northern and much of central Indiana was in the form of snow or sleet. Only southern Indiana received rain which occurred at the very beginning of the month and as glaze or light freezing rain on the 21st. Snow developed on the evening of the 28th, continuing into the first day of March. Many locations had already received 1 to 2 inches as February ended, with several more inches of snow following through the morning of March 1.

More than half of the winter season snowfall (December-February) fell during the last half of February for many locations. The 13.8 inches of snow accumulated for the month made this the 15th snowiest February on record in Indianapolis.

Winter Precipitation Data for Sites in Central Indiana

Site	Winter 2014-15 Precipitation	Normal Precipitation	Diff. From Normal
Indianapolis Int'l Airport	5.70	8.15	-2.45
Lafayette (*)	3.52	6.13	-2.61
Muncie	4.77	7.42	-2.65
Terre Haute (**)	5.68	7.34	-1.66
Bloomington	7.44	9.61	-2.17
Shelbyville	6.00	8.02	-2.02
Indianapolis – Eagle Creek***	4.96	7.42	-2.46

(*) Lafayette precipitation data missing 1/5-1/7

(**) Terre Haute precipitation data missing on 1/5

Indianapolis Data

INDIANAPOLIS DECEMBER 2014 SUMMARY

	Average Temperature	Total Precipitation	Total Snowfall	Highs below freezing
December 2014	33.3	2.55	0.1	5
Normal December	31.6	3.17	6.9	8
Difference from Normal	+1.7	-0.62	-6.8	-3

December 2014 All-Time Ranks:

Temperature: Tied for 62nd Warmest

Precipitation: 64th Driest

Snowfall: Tied for 4th Least Snowiest

INDIANAPOLIS JANUARY 2015 SUMMARY

	Average Temperature	Total Precipitation	Total Snowfall	Highs below freezing
January 2015	25.3	1.81	3.1	12

Normal January	28.1	2.66	8.6	12
Difference from normal	-2.8	-0.85	-5.5	+0

January 2015 All-time Ranks

Temperature: 53rd Coldest

Precipitation: Tied for 53rd Driest

Snowfall: Tied for 42nd Least Snowiest

INDIANAPOLIS FEBRUARY 2015 SUMMARY

	Average Temperature	Total Precipitation	Total Snowfall	Highs below freezing
February 2015	20.2	1.34	13.8	17
Normal February	32.1	2.32	6.5	7
Difference from Normal	-11.9	-0.98	+7.3	+10

February 2015 All-Time Ranks:

Temperature: Tied for 5th Coldest

Precipitation: 35th Driest

Snowfall: 15th Snowiest

INDIANAPOLIS 2014-2015 WINTER SEASON SUMMARY

	Average Temperature	Total Precipitation	Total Snowfall	Highs Below Freezing	Lows Below Zero
Winter 2014-2015	26.5	5.70	17.0	34	6
Normal Winter	30.5	8.15	22.0	27	6
Difference from Normal	-5.0	-2.45	-5.0	+7	+0

Winter 2014-2015 All-Time Ranks

Temperature: Tied for 22nd Coldest

Precipitation: 29th Driest

Snowfall: 59th Snowiest

Temperature and precipitation records at Indianapolis go back to 1871. Snowfall records go back to 1884.

Spring 2015 Outlook

The official outlook for meteorological spring (March-May 2015) from the Climate Prediction Center indicates an equal chance of above, below or near normal temperatures and precipitation. At Indianapolis, the average temperature for the spring season is 52.6 degrees. The average spring season precipitation is 12.42 inches along with 2.8 inches of snowfall, most of which typically falls during the month of March.

Data prepared by the NWS Indianapolis Forecast Office.